

## Dennis J. Zhang

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### CONTACT INFORMATION

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St. Louis, MO 63130 USA  
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*Website:* [www.denniszhang.org](http://www.denniszhang.org)

### ACADEMIC POSITION

**Olin Business School, Washington University in St. Louis**

*Tenured Associate Professor of SCOT* Present

*Tenured Associate Professor of Marketing (Courtesy)* Present

*Assistant Professor of Supply Chain, Operations, and Technology* 2016 - 2020

### EDUCATION

**Kellogg School of Management, Northwestern University** 2012-2016

Ph.D., Managerial Economics and Operations Management

M.S., Managerial Economics and Operations Management

**University of California, at Los Angeles (UCLA)** 2008-2012

B.S., Electrical Engineering and Computer Science (Summa cum laude)

B.S., Mathematics (Summa cum laude)

### RESEARCH INTEREST

Digital Marketplace; Machine Learning; Operations Management; Quantitative Marketing; Causal Inference; Structural Estimation.

### PUBLICATIONS

- Jun Li, Zoey Jiang and Dennis J. Zhang (2023). A High-Dimensional Choice Model for Online Retailing. **Management Science**.
- Zhiyu Zeng, Hengchen Dai, Dennis J. Zhang, Heng Zhang, Renyu Zhang, Zuo-Jun Max Shen, Zhiwei Xu (2022). The Impact of Social Nudges on User-Generated Content on Social Network Platforms. **Management Science**.
- Xinyu Cao, Dennis J. Zhang and Lei Huang (2022). The Impact of COVID-19 Pandemic on the Behavior of Online Gig Workers. **Manufacturing & Service Operations Management**.
- Bing Bai, Hengchen Dai, Dennis J. Zhang and Fuqiang Zhang (2022). The Impact of AI on Workers' Perceived Fairness: Evidence from a Field Experiment. **Manufacturing & Service Operations Management**.
- Zikun Ye, Dennis J. Zhang, Heng Zhang, Renyu Zhang, Xin Chen and Zhiwei Xu (2022). Cold Start on Online Advertising Platforms: Data-Driven Algorithms and Field Experiments. **Management Science**.
- Joren Gijsbrechts, Robert N. Boute, Jan A. Van Mieghem and Dennis J. Zhang (2021). Can Deep Reinforcement Learning Improve Inventory Management? Performance on Dual Sourcing, Lost Sales and Multi-Echelon Problems. **Manufacturing & Service Operations Management**.
- Jake Feldman and Dennis J. Zhang (2021). Customer Choice Models versus Machine Learning: Finding Optimal Product Displays on Alibaba. **Operations Research**.

- Zhenling Jiang, Tat Chan and Dennis J. Zhang (2021). Effects of Bonus on the Demand for Auto Loans and the Long-Term Consequences. **Journal of Marketing Research**.
- Jiankun Sun, Dennis J. Zhang, Haoyuan Hu and Jan A. Van Mieghem (2020). Predicting Human Discretion to Adjust Algorithmic Prescription: A Large-Scale Field Experiment in Bin Packing Warehouse Operations. **Management Science**.
- Zekun Liu, Dennis J. Zhang and Fuqiang Zhang (2020). Information Sharing on Retail Platforms. Forthcoming at **Manufacturing & Service Operations Management**.
- Dennis J. Zhang and Ming Hu (2020). NetEase Cloud Music Data. Conditionally Accepted at **Manufacturing & Service Operations Management**.
- Dennis J. Zhang, Hengchen Dai and Lingxiu Dong (2019). The Value of Pop-Up Stores on Retailing Platforms: Evidence from a Field Experiment with Alibaba. Forthcoming at **Management Science**.
- Dennis J. Zhang, Hengchen Dai and Lingxiu Dong (2019). The Long-term and Spillover Effects of Price Promotions on Retailing Platforms: Evidence from a Large Randomized Experiment on Alibaba. Forthcoming at **Management Science**.
- Lamar Pierce, Laura Wang and Dennis J. Zhang (2019). Peer Bargaining and Productivity in Teams: Evidence on the Inequitable Division of Pay. Forthcoming at **Manufacturing & Service Operations Management**.
- Hengchen Dai and Dennis J. Zhang (2018). Prosocial Goal Pursuit in Crowdfunding: Evidence from Kickstarter. **Journal of Marketing Research**.
- Ruomeng Cui, Jun Li and Dennis J. Zhang (2018). Reducing Discrimination with Reviews in the Sharing Economy: Evidence from Field Experiments on Airbnb. Forthcoming at **Management Science**.
- Ruomeng Cui, Dennis J. Zhang and Achal Bassamboo (2017). Learning from Inventory Availability Information: Evidence from Field Experiments on Amazon. **Management Science**, 65(3), 1216-1235.
- Ruomeng Cui, Antonio Moreno-Garcia, Santiago Gallino, and Dennis J. Zhang (2017). The Operational Value of Social Media Information. **Production and Operations Management** 27(10), 1749-1769.
- Dennis J. Zhang, Gad Allon, and Jan A. Van Mieghem (2016). Does social interaction improve learning outcomes? Evidence from field experiments on massive open online courses. **Manufacturing & Service Operations Management** 19(3), 347-367.
- Dennis J. Zhang, Itai Gurvich, Jan A. Van Mieghem, Eric Park, Mark V. Williams, and Robert S. Young (2016). Hospital Readmission Reduction Program: An Economic and Operational Analysis. **Management Science** 62(11), 3351-3371.
- Zikun Ye, Zhiqi Zhang, Dennis J. Zhang, Heng Zhang, Renyu Zhang (2023). Deep Learning Based Causal Inference for Large-Scale Combinatorial Experiments: Theory and Empirical Evidence. *23th ACM Conference on Economics and Computation (EC'23)*

BOOKS,  
PRACTITIONER  
AND CONFERENCE  
PUBLICATIONS

- Hamsa Bastani, Dennis J. Zhang and Heng Zhang (2020). Applied Machine Learning in Operations Management. *Springer Innovative Technology at the Interface of Finance and Operations*
- Antonio Moreno, Jun Li and Dennis J. Zhang (2019). Agent Pricing in the Sharing Economy: Evidence from Airbnb. Sharing Economy: Making Supply Meet Demand. In *Springer Series in Supply Chain Management*.
- Jun Li, Dennis J. Zhang and Ruomeng Cui (2017). A Better Way to Fight Discrimination in the Sharing Economy. *Harvard Business Review*.
- Dennis J. Zhang, Jiadong Wang, Shayan Garani Srinivasa, and Lara Dolecek (2011). Achieving Flexibility in LDPC Code Design by Absorbing Set Elimination. *Proc. Asilomar Conference on Signals, Systems, and Computers*.

PAPERS UNDER  
REVIEW OR  
REVISION

- Zhiyu Zeng, Nick Clyde, Hengchen Dai, Dennis J. Zhang and Max Shen. The Value of Customer-Related Information on Service Platforms: Evidence From a Large Field Experiment. Major Revision at **Manufacturing & Service Operations Management**.
- Ali Aouad, Jacob Feldman, Danny Segev and Dennis J. Zhang. Click-Based MNL: Algorithmic Frameworks for Modeling Click Data in Assortment Optimization. Minor Revision at **Management Science**.
- Bing Bai, Tat Y. Chan, Dennis J. Zhang and Fuqiang Zhang. The Value of Logistic Flexibility in E-commerce. Major revision at **Management Science**.
- Xiaoyang Long, Jiankun Sun, Hengchen Dai and Dennis J. Zhang. Choice Overload with Search Cost and Anticipated Regret: Theoretical Framework and Field Evidence. Major revision at **Manufacturing & Service Operations Management**.
- Guangying Chen, Tat Chan and Dennis J. Zhang. The Effects of Diversity in Algorithmic Recommendations on Digital Content Consumption: A Field Experiment. Under Revision.
- Chenshan Hu, Xinyu Cao, Jiankun Sun and Dennis J. Zhang. From Forced to Voluntary AI Adoption. Under Revision.
- Zikun Ye, Zhiqi Zhang, Dennis J. Zhang, Heng Zhang, Renyu Zhang. Deep Learning Based Causal Inference for Large-Scale Combinatorial Experiments: Theory and Empirical Evidence. Under Revision.
- Hengchen Dai, Xiaoyang Long and Dennis J. Zhang. Wage Transparency, Negotiation, and Reference-dependent Utility. Under Revision
- Annie Shi, Tat Chan and Dennis J. Zhang. Using Algorithm Scores to Measure the Impacts of Targeted Promotional Messages. Under Revision.

EDITORIAL  
SERVICES

- Area Editor, Machine Learning and Data Science, at **Operations Research**
- Associate Editor, Marketing Department, at **Management Science**
- Associate Editor, **M&SOM**
- Senior Editor, Marketing Department, at **Production and Operations Management**,

- Ad-hoc Referee: *Journal of Political Economy*, *American Economic Review*, *Marketing Science*, *Operations Research*, *Journal of Marketing Research*, *Information System Research*, *Journal of Law and Economics*, *Organizational Behavior and Human Decision Processes*.

## PHD STUDENTS

- **Current Advisees:** Guangying Chen (expected 2025), Annie Shi (expected 2025), Nick Clyde (expected 2025), Chenshan Hu, Zihan Zhao, Zhiqi Zhang, Sikun Xu, Shilei Luo, Cheng Lu
- **Past Advisees:**
  - Daniel Chen (2024, Committee Member and Coauthor), Wharton OM PhD. **Assistant Professor of Operations Management** in Boston College.
  - Zikun Ye (2023, Committee Co-Chair and JMP Advisor), UIUC IE PhD. **Assistant Professor of Marketing** in University of Washington, Foster School of Business.
  - Bing Bai (2023, Committee Co-Chair and JMP Advisor), WashU Olin OM PhD. **Assistant Professor of Operations Management** in McGill University, Desautels Faculty of Management
  - Joren Gijsbrechts (2020, Committee Member and JMP Advisor), KU Leuven OM PhD. **Assistant Professor of Operations Management** in Catolica Lisbon School of Business and Economics
  - Zhenling Jiang (2019, Committee Member and Coauthor), WashU Olin Marketing PhD. **Assistant Professor of Marketing** at the Wharton School of the University of Pennsylvania
  - Jiankun Sun (2019, Committee Member and JMP Advisor), Northwestern Kellogg OM PhD. **Assistant Professor of Operations Management** in Imperial College London Business School.
- **Past Students (Committee Member):**
  - Fan Yang (2023). External Committee Member. Assistant Professor, NEOMA Business School, France
  - Fasheng Xu (2019). Committee Member. Assistant Professor, Whitman School of Management, Syracuse University
  - Duo Shi (2018). Committee Member. Assistant Professor, CUHK Business School, Shenzhen

## HONORS AND AWARDS

- **Career Award**

1. 2022 POMS Early Career Research Accomplishments Award

- **Paper Award**

1. (2023) Second Place, 2023 CSAMSE Best Paper Award Competition  
“Deep Learning Based Causal Inference for Large-Scale Combinatorial Experiments: Theory and Empirical Evidence.”
2. (2023) Finalist, 2023 Best Paper in *Operations Research*  
“Customer Choice Models versus Machine Learning: Finding Optimal Product Displays on Alibaba.”

3. (2023) Winner, 2023 Best OM Paper in *Management Science*:  
‘Reducing Discrimination with Reviews in the Sharing Economy: Evidence from Field Experiments on Airbnb.’
4. (2022) Finalist, 2022 Best OM Paper in *Management Science*:  
‘Learning from Inventory Availability Information: Evidence from Field Experiments on Amazon.’
5. (2022) Industry Studies Association’s 2021 Ralph Gomory Best Industry Studies Paper Award:  
‘Peer Bargaining and Productivity in Teams: Evidence on the Inequitable Division of Pay.’
6. (2021) Second Place, 2021 CSAMSE Best Paper Award Competition  
“The Impact of AI on Workers’ Perceived Fairness: Evidence from a Field Experiment.”
7. (2021) INFORMS Revenue Management and Pricing Section Jeff McGill Student Paper Prize:  
“Cold Start to Improve Market Thickness on Online Advertising Platforms: Data-Driven Algorithms and Field Experiments.”
8. (2021) Finalist, 2021 Behavioral Operations Management Best Working Paper Award:  
“Wage Transparency, Negotiation, and Reference-dependent Utility.”
9. (2021) Finalist, 2021 Wharton People Analytics White Paper Competition  
“The Impact of AI on Workers’ Perceived Fairness: Evidence from a Field Experiment.”
10. (2021) Finalist, Best Accepted Papers in 2021 Academy of Management Meeting  
“The Impact of AI on Workers’ Perceived Fairness: Evidence from a Field Experiment.”
11. (2020) Honorable Mention, M&SOM 2020 Responsible Research Award  
“Reducing Discrimination with Reviews in the Sharing Economy: Evidence from Field Experiments on Airbnb.”
12. (2020) Finalist, 2020 CBOM Junior Scholar Paper Competition.  
“The Impact of AI on Workers’ Perceived Fairness: Evidence from a Field Experiment.”
13. (2020) Winner, 2020 Olin Research Award.  
“Predicting Human Discretion to Adjust Algorithmic Prescription: A Large-Scale Field Experiment in Bin Packing Warehouse Operations.”
14. (2019) Winner, 2019 Revenue Management Practice Award  
“Taking Assortment Optimization from Theory to Practice: Evidence from Large Field Experiments on Alibaba.”
15. (2019) Finalist, 2019 Best Service Science Paper Award Competition  
“The Spillover Effects of Employee-Customer Interactions: Field Evidence from an Online Education Platform.”
16. (2019) Finalist, 2019 Innovative Applications in Analytics Award  
“Taking Assortment Optimization from Theory to Practice: Evidence from Large Field Experiments on Alibaba.”
17. (2019) Winner, 2019 Olin Research Award.  
“Taking Assortment Optimization from Theory to Practice: Evidence from Large Field Experiments on Alibaba.”
18. (2018) Finalist, Competition at the 2018 Wharton People Analytics Conference:  
“Peer Bargaining and Productivity in Teams: Evidence on the Inequitable Division of Pay.”
19. (2018) Finalist, 2018 POMS Applied Research Challenge:  
“How Do Price Promotions Affect Customer Behavior on Retailing Platforms? Evidence from a Large Randomized Experiment on Alibaba.”

20. (2018) Finalist, 2018 POM-CBOM Junior Scholar Competition:  
“How Do Price Promotions Affect Customer Behavior on Retailing Platforms? Evidence from a Large Randomized Experiment on Alibaba.”
21. (2017) Winner, 2017 Behavioral Operations Management Best Working Paper Award:  
“Reducing Discrimination with Reviews in the Sharing Economy: Evidence from Field Experiments on Airbnb.”
22. (2014) Winner, 2014 POMS College of Healthcare Operations Management Best Paper Award:  
“Hospital Readmission Reduction Program: An Economic and Operational Analysis.”

- **Service Award**

1. (2020) Management Science Distinguished Service Award
2. (2020) M&SOM Distinguished Service Award
3. (2019) Management Science Distinguished Service Award
4. (2019) M&SOM Distinguished Service Award
5. (2018) Management Science Distinguished Service Award
6. (2018) M&SOM Distinguished Service Award
7. (2017) Management Science Distinguished Service Award
8. (2017) M&SOM Distinguished Service Award

- **Teaching Award**

1. (2019) Reid Teaching Award—Master of Science in Business Analytics—Financial Technology
2. (2019) Reid Teaching Award—Master of Science in Business Analytics—Customer

RESEARCH  
PRESENTATIONS

**Invited Talks**

- **University Invited Seminar:**

- 2023-2024: Kellogg School of Management, Northwestern University; Emory University Goizueta Business School; George Washington University School of Business; Cox School of Business, SMU; Questrom School of Business, Boston University; IDSS, MIT.
- 2022-2023: The University of Tennessee, Knoxville, University of Michigan’s Ross Marketing Area, NYU Stern School of Business, University of Toronto’s Rotman School of Management
- 2021-2022: University of Chicago, Singapore Management University, University of California Riverside, Case Western University, Binghamton University
- 2019-2020: University of California Berkeley, UIUC, University of Maryland, UT Dallas, Shanghai University of Finance and Economics, Shanghai Jiao Tong University
- 2018-2019: University of Washington Foster School of Business, Johns Hopkins Carey Business School, Peking University, Guanghua School of Management, Georgia Tech Scheller College of Business, NYU Stern School of Business
- 2017-2018: London Business School, Imperial College Business School, Massachusetts Institute of Technology, HKUST Business School, UCLA Management and Organization, Northwestern University, Kellogg School of Management, Cornell University, Harvard Business School,

- 2016-2017: Washington University in St. Louis, University of Science and Technology of China, Fudan University School of Management, NYU Shanghai, HKUST Business School, Northwestern University, Kellogg School of Management,
- 2015-2016: Washington University in St. Louis, Carnegie Mellon University, Duke University, UNC Kenan-Flagler Business School, Indiana University, Yale School of Management, University of Michigan.
- **Company**
  - 2021-2022: Amazon, Tiger Analytics
  - 2019-2020: Kuaishou (Kwai), TAL Education Group, Expedia Group
  - 2018-2019: Chehaoduo, Helijia, Kuaishou (Kwai), Alibaba Digital Economy Initiative
  - 2017-2018: Cainiao, Alibaba, VIPKID

#### MEDIA COVERAGE

1. “3 Ways to Retrain Your Mind to Get Out of Credit Card Debt.” February 2020, *New York Times*
2. “You’re Right. You’re Spending More Time Sitting on That Plane.” September 2019, *New York Times*
3. “Attention Passengers: Your Next Flight Will Likely Arrive Early. Here’s Why. Turns out padding airline schedules is good for business.” November 2018, *Inc.*
4. “Attention Passengers: Your Next Flight Will Likely Arrive Early. Here’s Why.” November 2018, *Kellogg Insight*
5. “Why Kickstarter Funders Quickly Kick in the Last 5 Percent.” August 2018, *UCLA Anderson Review*
6. “Online Coupons Work in the Moment but Don’t Seem to Alter the Seller-Shopper Relationship.” June 2018, *UCLA Anderson Review*
7. “Want to Improve Your Sales Forecast? Check Your Company’s Facebook Feed.” September 2017, *Kellogg Insight*
8. “What Makes an Online Flash Sale Successful?” June 2017, *Kellogg Insight*.
9. “No simple fix to weed out racial bias in the sharing economy,” March 2017, *The Globe and Mail*.
10. “New Research Looks At Ways To Help Stop Airbnb Racial Discrimination,” March 2017, *National Public Radio (NPR)*.
11. “Study: How new Airbnb nondiscrimination policy may be worse,” January 2017, *the Source, Washington University in St. Louis*.
12. “A Gentle Nudge Can Increase Participation in MOOCs,” December 2015, *Kellogg Insight*.
13. “Could Email Fix A Troubled Form of Online Education?” December 2015, *ChicagoInno*.

TEACHING  
EXPERIENCE

**Washington University in St. Louis**

- Instructor for “**Artificial Intelligence and Machine Learning for Business Applications Part B**” – PhD Course, 2023.
- Instructor for “**Artificial Intelligence and Machine Learning for Business Applications Part A**” – PhD Course, 2022.
- Instructor for “**Data Analytics and Decisions**” – Core EMBA Course at Washington University - Fudan University EMBA Program, 2021, 2022.
- Instructor for “**Data-Driven Decision Making for Executives**” – Core EMBA Course at Washington University in St Louis, 2021, 2022.
- Instructor for “**Data Analytics for Government Leaders**” – Executive Education at Brookings Institution, Washington DC (designed by me), 2019.
- Instructor for “**Deep Learning for Business Strategy**” – Executive Education at Center for Customer Analytics and Big Data (designed by me), 2018.
- Instructor for “**Introduction to Data Science with Python**” – Core Master of Business Analytics Class (co-designed with Jake Feldman), 2018 - 2022.
- Instructor for “**Operations Management**” – Core Undergraduate Class, 2016-2017.